

NORTH ALASKA PENINSULA SOCKEYE SALMON
TEST FISHERY OPERATIONAL PLAN, 2002

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ABSTRACT

The largest sockeye salmon *Oncorhynchus nerka* production in the Alaska Peninsula Management Area comes from the Bear River, located about 15 miles northeast of Port Moller. The Bear River has two sockeye salmon runs; an early run that begins in early June and ends in late July, and a late run that begins in late July and ends in late September. Commercial fisheries in the vicinity of Bear River have occurred for almost 100 years. In 2000, a test fishery program was started by the Alaska Department of Fish and Game to assess the marine abundance of sockeye salmon following commercial salmon fishery closures. This program assists management staff with making commercial fishery opening decisions and reducing the possibility of large pulses of surplus sockeye salmon escapement to Bear River.

INTRODUCTION

Commercial fishery openings in the Bear River Section (North Alaska Peninsula) of the Alaska Peninsula Management Area are based on the achievement of the Bear and Sandy Rivers' sockeye salmon *Oncorhynchus nerka* interim escapement goals throughout the season. The Bear River sockeye salmon run is the largest in the Alaska Peninsula Management Area with an escapement goal of 200,000-250,000 fish. Presently, the sockeye salmon escapement is counted at a weir located at the outlet of Bear Lake, approximately 15 river miles upstream and at least 1-2 days swimming travel time from the terminus of the river. Aerial surveys are used to assess upriver migrating fish almost daily during commercial salmon fishery closures to avoid large pulses of fish that could be in the river but not being counted at the weir.

An Alaska Department of Fish and Game (ADF&G) test fish program began in 2000 to index the sockeye salmon abundance in the marine waters near Bear River. The test fishery also obtains biological samples during commercial fishery closures that otherwise would not be available. In 2001, changes were made to the test fishery through direction of the North Peninsula fishermen (North Peninsula Fishermen's Working Group) who suggested that the test fishery be expanded to include two boats instead of one. This would provide more fishing area around Bear River to be simultaneously sampled with one boat fishing north of the Bear River stream terminus and one fishing south of the river. The expansion would provide a more accurate index of the biomass of salmon in the area and reduce the likelihood of one boat fishing on one school of fish that moved along the beach, potentially giving an inaccurate biomass assessment.

During some commercial fishery closures, sockeye salmon build up in the marine waters around Bear River, and do not move into the river where they can be counted at the weir or by aerial surveys, and then unexpectedly enter the river in large numbers surplus to the escapement needs. Providing a means to assess the marine build-up will decrease the likelihood of large pulses of surplus escapement, which results in unharvested sockeye salmon surplus to the escapement needs at Bear River. This test fishery program will provide the ADF&G a means to assess the marine build-up of sockeye salmon and enhance management of this system.

During commercial fishery closures between late June and mid August, the Bear River test fishery will obtain abundance indices in the marine environment when a build up of fish would be expected (after a three to five day closure). Test fishing will provide timely estimates of salmon within the Bear River area to be used for inseason management of the commercial salmon fishery.

OBJECTIVES

Biological

1. Provide a timely index of the sockeye salmon abundance within the marine environment in the vicinity of Bear River. Test fishing is the only means available to assess fish abundance because the ocean water conditions surrounding Bear River limit visibility during aerial surveys.

2. Reduce the potential for large surplus escapements into Bear River, thus maximizing the harvest of surplus sockeye salmon and decreasing the likelihood of exceeding the escapement goal.
3. Collect biological data from test fishery caught salmon, including age data.

Fiscal

1. Secure revenue to meet the needs of the test fish project. Each chartered vessel will be paid \$1,000 per day to make at least four sets. Vessels will provide necessary personnel to operate boat and gear, food, fuel and lubricants, and other supplies needed for daily operation of the vessel. The sale of fish caught during the test fishery is, at a minimum, expected to cover the costs for the daily charter (\$1,000/day), ADF&G personnel, and equipment necessary for fishery sample collections.

PROCEDURES

Requirements for Charter Contract

The ADF&G requires a fully equipped drift gillnet vessel to charter for the salmon test fishery program. Vessels must have a current Area M salmon drift gillnet permit and legal drift gillnet gear for the Bear River Section. Each vessel must have accommodations for one ADF&G employee for the duration of the charter (day trips) and make a minimum of four drift gillnet sets in specific locations in the Bear River Section (Figure 1). One vessel will test fish north of the stream terminus, and the other south of the stream terminus. Further, the vessels must comply with United States Coast Guard (USCG) regulations including having survival suits for the entire crew (ADF&G will provide a survival suit for the observer), first aid kit, and fire fighting equipment. Protection (hull) and Indemnity insurance including crew exposure in the amount of at least \$300,000 is required. The charter vessel will provide all gear necessary for the test fishery, as well as fuel, lubricants, and meals. The skipper of the vessel must have at least five fishing seasons experience drift gillnet salmon fishing in the vicinity of Bear River.

Establishment of Charter Vessel Selection List

Beginning each season, ADF&G will establish and maintain a list of vessels wishing to participate in the program prior to the first charter. Enrollment will begin on May 15 and continue until the first test fishing date. Enrollment can be completed in person or by phone with ADF&G staff in Port Moller. However, each vessel must meet the requirements listed in the previous section. At the close of the initial enrollment period, the ADF&G will conduct a random drawing to determine the sequence of the participating vessels. This sequential list shall be maintained throughout the season and will be announced over VHF 72 and made available to the public. Test fish vessels will be notified by VHF radio (Channel 72) at least 10 hours in advance of a test fishery. If a vessel is unavailable to participate in the test fishery (permit holder can not be contacted prior to 6:00 P.M. the night before the test fishery), the vessel will be

reinstated at the bottom of the list and the next vessel on the list will be chosen. If poor weather conditions exist, the ADF&G and the permit holder will make the decision as to whether the test fishery will occur. If weather prevents the test fishery from occurring, the vessel scheduled will be the next chartered vessel when the next test fishery occurs.

Additional permit holders may enroll after the initial enrollment and drawing if additional test fish vessels are needed. However, these vessels will be placed at the end of the established list, in the order in which their enrollments were received.

Determination to Test Fish

The ADF&G will determine when test fishing will occur based upon management requirements. Depending on catch and escapement rates prior to the closure of the commercial fishery, a build-up of fish will be permitted for 3-5 days (usually) before a test fishery is conducted. If escapement counts at Bear River do not increase to desired interim escapement goal levels within several days following a closure, a test fishery will be conducted to determine if there is an aggregation of sockeye salmon in the marine waters surrounding Bear River.

Drift Gillnet Procedures

ADF&G staff will meet with the permit holders of the scheduled chartered vessels prior to departure from Port Moller to the Bear River area. The vessels will depart prior to 8:00 AM or upon an agreed time that maximizes fishing around tides, and return to Port Moller once the required sets are completed. At least one ADF&G observer will be onboard each vessel from the time it leaves Port Moller in the morning until it returns later that day. Drift gillnet gear (200 fathoms in length and 70 meshes deep) will be set perpendicular to the beach and fished similar to a normal commercial fishing operation. One vessel will fish north of the Bear River stream terminus and the other south of the terminus. ADF&G staff onboard the chartered vessel will record the number of fish caught by species at each gillnet location, GPS coordinates at start of each set (beachward), set time (first buoy in the water), and pick time (last buoy onboard). Set times will be planned for 15 minutes in length (time full net is in the water until net begins to be picked). Actual fishing time that the net is completely out of the water will vary depending on fishing conditions and number of fish being caught.

Gillnet locations and sequential orders of the sets are shown in Figure 1. The two vessels will try to coordinate the timing of the first sets. GPS coordinates will be taken of the start of each set. The sequence of sets should begin as follows:

	<u>Vessel fishing north of Bear River</u>	<u>Vessel fish south of Bear River</u>
Set 1	½ mile north of the Bear River church and ½ mile offshore	southern part of the whale hole and ½ mile offshore
Set 2	at the Bear R. church close to the beach	at the whale hole close to the beach

Set 3	at the 1,000 yard northern regulatory marker close to the beach	at the 1,000 yard southern regulatory marker close to the beach
Set 4	within the 1,000 yard northern regulatory marker close to the beach	within the 1,000 yard southern regulatory marker close to the beach

Sets will be made perpendicular to the beach. Those sets close to the beach will be made as close as possible considering weather conditions. Upon setting the gear, the net will be “run” to determine the approximate harvest of fish. Soak times will be 15 minutes in duration that commences after the entire net is in the water. If large numbers of sockeye salmon are observed being caught prior to 15 minutes, then the gear will be pulled immediately to prevent excessive numbers of fish from being harvested. Additional sets beyond those scheduled or soak times longer than 15 minutes may be necessary to provide biomass estimates and pay for the cost of the combined charters. Determination of additional set locations will be made onsite by the ADF&G observers.

Upon completion of the final set, the vessels will transport the catch to the processor for delivery and drop off ADF&G staff at the Port Moller dock. During delivery, sockeye salmon will be randomly selected for scale sampling purposes per guidelines set forth in the Alaska Peninsula Catch Sampling Operational Procedures (Murphy *in press*^a). All fish will be sold under the ADF&G test fish account and revenue will be deposited into the Test Fish Account.

Management Implications

ADF&G management staff in Port Moller will assess the results provided at the end of each test fishery and update fishermen via VHF radio at the next daily radio schedule to the fleet. Management decisions will incorporate all the information including daily catch rates prior to the fishery closure, aerial survey observations, daily escapement estimates, and the test fishery results. ADF&G will continue to incorporate other factors, as stated in the North Alaska Peninsula Management Plan (Murphy *in press*^b), to establish fishing time and areas. If a large biomass buildup is observed in the test fishery area, management actions can include opening the commercial fishery while providing a closed water area to protect milling Bear River bound sockeye salmon. In the past, ADF&G has closed areas around Bear River to ensure escapement requirements were achieved while providing a harvest opportunity outside the protected areas. The test fishery program will provide ADF&G with the marine abundance index to help maximize fishing time and minimize large pulses of surplus escapement.

LITERATURE CITED

Murphy, R.L. *In press*^a. Alaska Peninsula salmon catch and escapement operational plans, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division, Kodiak.

Murphy, R.L. *In press*^b. North Alaska Peninsula salmon management plan, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division, Kodiak.

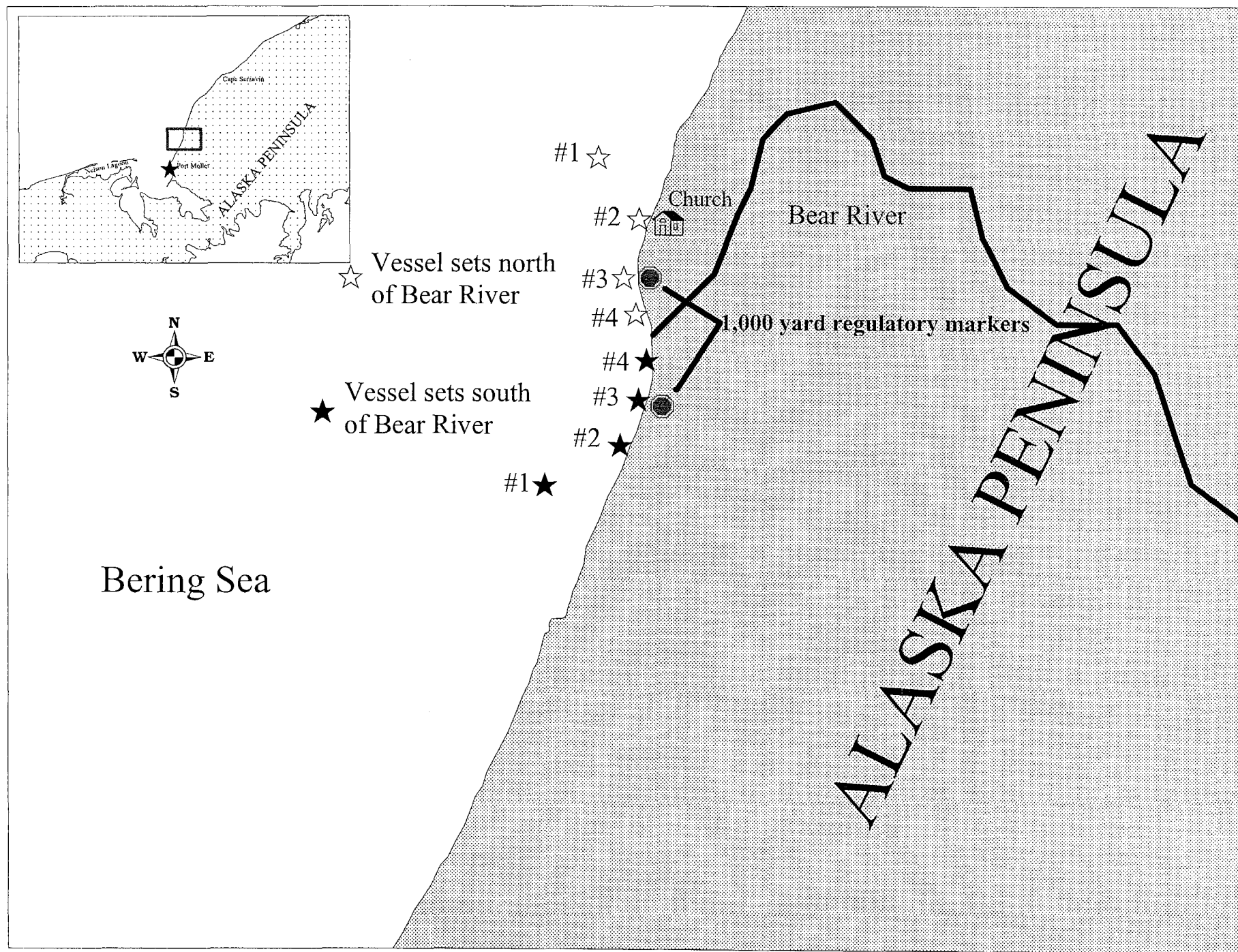


Figure 1. Location of test fish drift gillnet sets in the vicinity of Bear River on the Alaska Peninsula.

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